IN THE CLAIMS

Listing of Claims:

Claims 1 through 6(Cancelled).

Claim 7 (Currently amended): A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter ~~as in Claim 5~~, said transmitter having one or more distinct states of operation characterized by one or more distinct frequencies, comprising:

storing energy within said high-Q resonant circuit transmitter; and

switching of said stored energy so as to instantaneously change the frequency of said transmitter coil current;

wherein the transition time between said distinct states is approximately zero.

Claim 8 (Currently amended): A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter as in Claim ~~5~~ 7 wherein the operation of said high-Q resonant circuit transmitter during said distinct states is independent between said states.

Claim 9 (Currently amended): A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter as in Claim ~~5~~ 7, wherein said distinct states are characterized by a high and low frequency.

Claim 10 (Currently amended): A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter as in Claim ~~5~~ 7, wherein switching between said distinct states is accomplished with little to no energy loss.

Claims 11 and 12 (Cancelled).

Claim 13 (Currently amended): In a frequency-shift-keyed demodulation receiver circuit ~~as in claim 12~~, for decoding a frequency-shift-keyed signal having multiple half cycles, the improvement comprising:

a means for decoding said frequency-shift-keyed signal by comparing the time duration of one or more of said half-cycles of said frequency-shift-keyed signal to an average value of the time duration of multiple half-cycles of said frequency-shift-keyed signal;

wherein said means for decoding comprises a multiphase demodulator;

and wherein said multiphase demodulator comprises one or more averaging capacitors and one or more threshold detectors.

Claims 14 and 15 (Cancelled).

Claim 16 (Currently amended): A method for frequency-shift-keyed demodulation of an alternating current waveform having multiple half-cycles ~~as in Claim 14~~, comprising:

comparing the time duration of one or more half-cycles of said alternating current waveform to an average value of the time duration of multiple half-cycles of said alternating current waveform;

~~wherein~~ accomplishing said comparison of the average of multiple time durations ~~is accomplished~~ by using one or more averaging capacitors.

Claims 17 through 21 (Cancelled).

Claim 22 (Currently amended). A power and communication system ~~as in Claim 21~~ for an inductively coupled device comprising:

a high-Q resonant circuit transmitter;

a means for producing frequency-shift-keyed modulation of a transmitter coil current whereby the frequency of said transmitter coil current is substantially instantaneously changed in a manner that results in little to no energy loss from the transmitter circuit; and

a frequency-shift-keyed demodulation circuit whereby said demodulation circuit comprises means for decoding a frequency-shift-keyed signal by comparing the time duration of one or more half-cycles of said frequency-shift-keyed signal to an average value of the time duration of multiple half-cycles of said frequency-shift-keyed signal;

wherein said frequency-shift-keyed demodulation circuit comprises a multiphase demodulator;

and wherein said multiphase demodulator comprises one or more averaging capacitors and one or more adaptive threshold detectors.

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Claim 7: A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter, said transmitter having one or more distinct states of operation characterized by one or more distinct frequencies, comprising:

storing energy within said high-Q resonant circuit transmitter; and

switching of said stored energy so as to instantaneously change the frequency of said transmitter coil current;

wherein the transition time between said distinct states is approximately zero.

Claim 8: A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter as in Claim 7 wherein the operation of said high-Q resonant circuit transmitter during said distinct states is independent between said states.

Claim 9: A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter as in Claim 7, wherein said distinct states are characterized by a high and low frequency.

Claim 10: A method for frequency-shift-keyed modulation of a transmitter coil current of a high-Q resonant circuit transmitter as in Claim 7, wherein switching between said distinct states is accomplished with little to no energy loss.

Claim 13: In a frequency-shift-keyed demodulation receiver circuit, for decoding a frequency-shift-keyed signal having multiple half cycles, the improvement comprising:

a means for decoding said frequency-shift-keyed signal by comparing the time duration of one or more of said half-cycles of said frequency-shift-keyed signal to an average value of the time duration of multiple half-cycles of said frequency-shift-keyed signal;

wherein said means for decoding comprises a multiphase demodulator;

and wherein said multiphase demodulator comprises one or more averaging capacitors and one or more threshold detectors.

Claim 16: A method for frequency-shift-keyed demodulation of an alternating current waveform having multiple half-cycles, comprising:

comparing the time duration of one or more half-cycles of said alternating current waveform to an average value of the time duration of multiple half-cycles of said alternating current waveform;

accomplishing said comparison of the average of multiple time duration by using one or more averaging capacitors.

Claim 22. A power and communication system for an inductively coupled device comprising:

a high-Q resonant circuit transmitter;

a means for producing frequency-shift-keyed modulation of a transmitter coil current whereby the frequency of said transmitter coil current is substantially instantaneously changed in a manner that results in little to no energy loss from the transmitter circuit; and

a frequency-shift-keyed demodulation circuit whereby said demodulation circuit comprises means for decoding a frequency-shift-keyed signal by comparing

the time duration of one or more half-cycles of said frequency-shift-keyed signal to an average value of the time duration of multiple half-cycles of said frequency-shift-keyed signal;

wherein said frequency-shift-keyed demodulation circuit comprises a multiphase demodulator;

and wherein said multiphase demodulator comprises one or more averaging capacitors and one or more adaptive threshold detectors.